

Amendment submitted in response  
to Office Action mailed 02/17/2006  
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### Remarks/Arguments

#### Status of the Application

Applicant respectfully requests reconsideration of the rejections and objections set forth in the Office Action mailed on September 29, 2005.

The Examiner has rejected claims 1, 2, 4, 7-9, 12, and 15-18 under 35 U.S.C. 102(b) as being anticipated by U.S. Publication No. US 2005/0064681 to *Wood et al. (Wood)*.

The Examiner has further rejected claims 10-11, and 13-14 under 35 U.S.C. 103(a) as being unpatentable over *Wood*.

The Examiner has further rejected claims 3, 19, and 20 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,946,236 to *Rottstegge (Rottstegge)* in view of *Wood*.

The Examiner has further rejected claims 5-6 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,911,358 to *Azami et al. (Azami)* in view of *Wood*.

Claims 2-3 and 7 are cancelled.

Claims 21-35 are withdrawn.

Claim 36 is newly presented.

As such, claims 1, 4-6, 8-20, and 36 are pending in this application.

#### The Claims

##### **Cited Art**

##### *Wood*

*Wood* discloses support structures for use with a semiconductor substrate during substrate processing (see Abstract). Further, *Wood* discloses a support structure in a ring configuration that is configured to receive a substrate (see FIGS. 2A-4D; ¶ 0041; ¶ 0059; ring structure 40, 40', 40a', 40b', 40c' and 40d').

##### *Rottstegge*

*Rottstegge* discloses processes for utilizing resist structures, which, following an exposure, enable a catalyst that changes solubility structures in the resist (see Abstract, Col. 1, II).

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35-42; Col. 10, ll. 30-50) Thus, *Rottstegge* requires an exposure that releases an acid group whereupon the polymer is polar (*see id.*)

*Azami*

*Azami* discloses at least some materials for use in the manufacture of a substrate in connection with semi-conductor manufacturing (*see Abstract; Col. 4, ll. 10-15*).

**Rejections Under 35 U.S.C. § 102 (b)**

Claim 1, 2, 4, 7-9, 12, and 15-18

The Examiner has rejected claims 1, 2, 4, 7-9, 12, and 15-18 under 35 U.S.C. 102(b) as being anticipated by *Wood*. Applicant respectfully traverses.

Amended claim 1 requires, “an adhesive layer configured to adhere to the semiconductor wafer, the adhesive layer comprising a high molecular weight polymer, wherein the polymer is soluble in one of the group consisting of: a mildly alkaline solution and a mildly acidic solution...” Applicant notes that amended claim 1 incorporates limitations of cancelled claims 2 and 3. The Examiner has correctly stated that *Wood* does not disclose a polymer that is soluble in either a mildly alkaline or mildly acidic solution.

Further, *Wood* discloses a support structure in a ring configuration that is configured to receive a substrate (*see FIGS. 2A-4D; ¶ 0041; ¶ 0059; ring structure 40, 40’, 40a’, 40b’, 40c’ and 40d’; emphasis added*). In contrast, amended claim 1 requires, “a support layer coupled to the adhesive layer configured to support the semiconductor wafer during processing.” As illustrated in FIG. 1 of the drawings, support layer 110 is not a ring structure, but a layer that necessarily covers an entire substrate such that the layer supports an adhesive layer to which a substrate may be attached.

Therefore, for at least these reasons, Applicant respectfully submits that claim 1 is allowable over the cited art. Claims 4, 8-9, 12, and 15-18 depend either directly or indirectly from claim 1 and are therefore allowable over the cited art for at least the same reasons as stated for claim 1.

Claims 2 and 7 are cancelled.

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#### **Rejections Under 35 U.S.C. § 103 (a)**

##### **Claims 10-11, and 13-14**

The Examiner has further rejected claims 10-11, and 13-14 under 35 U.S.C. 103(a) as being unpatentable over *Wood*. Applicant respectfully traverses.

As above, Applicant respectfully submits that claims 10-11, and 13-14 depend either directly or indirectly from claim 1 and are therefore allowable over the cited art for at least the same reasons as stated for claim 1.

Still further, the Examiner's notice notwithstanding, does nothing to cure the deficiency in *Wood*. Therefore, Applicant respectfully submits that claims 10-11, and 13-14 are allowable over the cited art for at least the reasons stated above.

##### **Claims 3, 19, and 20**

The Examiner has further rejected claims 3, 19, and 20 under 35 U.S.C. 103(a) as being unpatentable over *Rottstegge* in view of *Wood*. Applicant respectfully traverses.

As above, Applicant respectfully submits that claims 19 and 20 depend either directly or indirectly from claim 1 and are therefore allowable over the cited art for at least the same reasons as stated for claim 1. Applicant notes that amended claim 1 incorporates limitations of cancelled claims 2 and 3.

Further, *Rottstegge* discloses processes for utilizing resist structures, which, following an exposure, enable a catalyst that changes solubility structures in the resist (*see Abstract, Col. I, II. 35-42; Col. 10, II. 30-50; emphasis added*). In those examples, a polar group is protected by an acid labile group (*see id.*) Upon exposure, the acid is released whereupon the polar group is exposed thus making the resist insoluble to apolar solvents (*see id.*).

In contrast, the present invention requires, "an adhesive layer configured to adhere to the semiconductor wafer, the adhesive layer comprising a high molecular weight polymer, wherein the polymer is soluble in one of the group consisting of: a mildly alkaline solution and a mildly acidic solution..." First, the polymer claimed is immediately soluble in either of a mildly alkaline solution and a mildly acidic solution, which, as may be appreciated by one skilled in the

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art are polar solvents. *Rottstegge* requires an exposure that releases an acid group whereupon the polymer becomes polar.

Second, *Rottstegge* discloses uses for resist layers. As may be appreciated, resist layers are utilized in semi-conductor fabrication to mask a substrate prior to etching and depositing processes. In contrast, the present invention contemplates an adhesive layer configured to adhere to a semiconductor. No etching or depositing processes are contemplated in the present invention. Thus, Applicant respectfully submits that *Rottstegge* does not cure the deficiency in *Wood* and that application to the present claims is inapposite.

Therefore, for at least these reasons, Applicant respectfully submits that claims 19 and 20 are allowable over the cited art.

Claim 3 is cancelled.

#### Claims 5-6

The Examiner has further rejected claims 5-6 under 35 U.S.C. 103(a) as being unpatentable over *Azami* in view of *Wood*. Applicant respectfully traverses.

As above, Applicant respectfully submits that claims 5-6 depend either directly or indirectly from claim 1 and are therefore allowable over the cited art for at least the same reasons as stated for claim 1. Applicant notes that amended claim 1 incorporates limitations of cancelled claims 2 and 3.

*Azami* discloses at least some materials for use in the manufacture of a substrate in connection with semi-conductor manufacturing (see Abstract; Col. 4, ll. 10-15). In contrast, the present claims require, "a support layer... configured to support the semiconductor wafer during processing," claim 1. Thus, a substrate having a semi-conductor formed thereon, as disclosed in *Azami*, is not contemplated in embodiments of the present invention. Thus, Applicant respectfully submits that application of *Azami* to the present claims is inapposite. Further, Applicant respectfully submits that *Azami* does not cure the deficiency in *Wood*.

Therefore, for at least these reasons, Applicant respectfully submits that claims 5-6 are allowable over the cited art.

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Claim 36

Applicant submits that newly presented claim 36 presents no new subject matter.  
Support for the claim may be found in the Specification at ¶ 0023.

Applicant believes that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

The Commissioner is authorized to charge any additional fees to process this Amendment, or credit any over-payments that may apply, to our Deposit Account No. 50-2284 (Order No. AMSI-P001).

Respectfully submitted,

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